

MINERAL INDUSTRY SURVEYS

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Precious Metals, Monthly

PRECIOUS METALS IN MAY 1996

Domestic:

U.S. mines produced 25,600 kilograms of gold and 120,000 kilograms of silver in May.

It was noted in the May issue of *The Minerals, Metals & Materials Society's* publication *JOM* that according to a recent study by Michael Evans, professor of economics at the Kellogg School of Management at Northwestern University, delays in securing the necessary permits for mining developments threaten the long-term viability of the U.S. gold industry. This time-consuming approval process, which averages 4 to 5 years, reportedly has led mining companies to reduce their investment in exploration and mine development within the United States and encouraged the pursuit of overseas exploration projects.

Platt's Metals Week reported on May 13 that Crown Butte's proposed New World gold-silver-copper mine near Yellowstone National Park apparently hit another obstacle, as legislation was proposed by U.S. Senator Dale Bumpers (Arkansas) requiring certification that the mine would not harm the nearby Park (See *Precious Metals MIS*, October 1995). Additionally, Senator Bumper's legislation would restrict the use of Federal lands in and around the planned mine site from mining-related activities and prohibit any plan of operation that ultimately would result in the need to treat acid effluent or other forms of pollution.

USMX, Inc., Denver, CO, announced on May 14 that it had received the key permits from the State of Alaska necessary to commence construction at its Illinois Creek gold/silver property in central Alaska.

The package of approved permits included all permits necessary to begin development of gold mining and leaching facilities at the site. The air quality permit was reportedly undergoing public review; USMX expected that it would be issued in early June.

In a May 15 press release, Arimetco International Inc., Tucson, AZ, announced the start-up of gold leaching operations at its Paradise Peak project in Nye County, Nevada. Initial operations were to concentrate on the leaching of ore already on leach pads and would be expanded, as the year proceeds, to include the mining of primary ore. Gold shipments were scheduled to commence in late June.

Also on May 15, *American Metal Market* reported that Handy & Harman had announced that it intended to sell its U.S. precious metals refining operations to Golden West Refining Corp. Ltd., an Australian division of London's Rothschild Group. The sale included the company's U.S. gold and silver refining operations, which consist of an electrolytic smelter in Attleboro, MA; a refinery in South Windsor, CT, that handles low-grade material; and a refinery in Phoenix, AZ. Handy & Harman reportedly wanted to finalize the sale by June 30. The company apparently desired to withdraw from the precious metals refining business and focus its corporate efforts and capital on precious metals fabrication and specialty metal alloys.

On May 20, *American Metal Market* reported that in an attempt to standardize financial reporting practices within the gold industry, the Gold Institute, based in

Washington, DC, adopted a uniform method of reporting production costs on a per-troy-ounce basis.

It was hoped that the proposed standard would make it easier for analysts and investors to develop financial comparisons between different gold mining companies and amongst their separate mining operations. According to the Institute, the new standard encouraged companies to disclose production costs on an operation-by-operation basis, as well as details of byproduct credits, royalties, and miscellaneous expenses.

International:

Engineering and Mining Journal (E&MJ), reported in its May issue that Homestake Mining Co., San Francisco, CA, had exercised its option to acquire a 34% interest in the Chelopech gold/copper mine, which is located 75 kilometers east of Sofia, Bulgaria (See *Precious Metals MIS*, August 1995). Homestake had previously held approximately 10% of this mining venture.

The May issue of *Mining Magazine* indicated that American Resource Corp., Inc. (ARC), Greenbrae, CA, had commenced construction of its San Gregorio gold mine in northern Uruguay. The open-pit operation was scheduled to come on stream in March/April 1997. A 2,500-metric-ton-per-day milling and carbon-in-leach circuit designed to recover approximately 2,180 kilograms (70,000 troy ounces) of gold annually was planned for the San Gregorio project.

On May 2, *American Metal Market* reported that Cominco Ltd., Vancouver, BC, announced the completion of the sale of its 60% interest in the Snip Mine in British Columbia to the Prime Resources Group Inc. of Vancouver for \$55 million. Cominco retained a 5% net smelter return royalty on gold recovered from present and future ore reserves.

According to the May 10 issue of *Mining Journal* an Algerian joint venture planned to invest \$15 million toward developing the Tirek gold project in Algeria's southern province of Tamanghasset.

American Metal Market, also on May 10, reported that Homestake Mining Co., San Francisco, CA, and Codelco of Chile had announced the formation of a new gold exploration and development company in northern Chile, Agua de la Falda S.A. Homestake, in addition to owning a 51% interest, reportedly will manage the joint-venture company.

Metal Bulletin, in its May 13 issue, stated that the shareholders of Australia's Associated Gold Fields NL had apparently expressed agreement on the proposed merger with the Resolute Samantha Group of Perth, Western Australia. If approved, the merger would likely result in the immediate development of the Obotan gold deposit in Ghana. Associated Gold Fields holds an 82.5% interest in the West African project and has completed a bankable feasibility study for the

34,200-kilogram (1.1-million ounce) gold deposit. Resolute was reportedly prepared to commence development of a 1-million-metric-ton-per-year open-pit mining operation capable of producing a minimum of 2,640 kilograms (85,000 ounces) of gold per year for at least 8 years at Obotan.

American Metal Market reported on May 21 that Golden Shamrock Mines Ltd., Melbourne, VIC, had announced that a favorable feasibility study had been completed at the Siguiri I gold project in Guinea. The study supported the development of a mine that would produce 10,900 kilograms (350,000 ounces) of gold in the first year of operation and an average of 9,330 kilograms (300,000 ounces) per year in the following years of operation.

On May 22, *American Metal Market* reported that informal sector miners/prospectors (garimpeiros) had once again invaded the Cia. Vale do Rio Doce (CVRD) Serra Leste gold deposit in Brazil's State of Pará (See *Precious Metals MIS*, April 1996). The incursion had again disrupted CVRD's ongoing exploration and development at this remote Amazonian gold deposit.

The May 30 issue of *Metal Bulletin* reported that the RTZ-CRA Group had temporarily reduced the level of its exploration activities in Russia following its withdrawal from the Svetlinskoye gold joint venture with Russian partner Yuzhuralzoloto in the Chelyabinsk region of the southern Urals.

South-East Asia Mining Letter, in its May 31 issue, reported that the Australian copper producer Straits Resources Ltd. had entered into a Memorandum of Understanding with Indonesia's PT Aneka Tambang for the exploration and development of mineral deposits on the Indonesian island of Java. The principal focus of this joint project was the discovery and development of large, high-grade epithermal gold deposits.

Update:

The July issue of the *Mining Magazine* reported that Placer Dome Inc., Vancouver, BC, had announced that its grassroots gold discovery at Cerro Crucitas, in northern Costa Rica, contained preliminary gold resources estimated at 58 million tons of ore grading 1.2 grams of gold per metric ton (0.035 ounce per short ton), equivalent to approximately 2 million ounces of contained gold.

The July 6 issue of *Skilling's Mining Review* indicated that Cyprus Amax Minerals Co. and Amax Gold, Inc. had mutually announced the formation of a joint venture with several Russian entities to evaluate and, if viable, develop the Vorontsovka gold deposit in the Urals region of Russia. The operational enterprise for the Vorontsovka project reportedly would be the

Gold of the Northern Urals Joint Stock Co. The Cyprus Urals Corp. reportedly would own 49% of this entity and act as the joint-venture manager for construction and operation of the mine. The Cyprus Urals Corp. is a 75/25 Cyprus Amax Minerals Co. and Amax Gold Inc. enterprise established under an exploration agreement in 1994. A group of four Russian entities will own the remaining 51% of the

Gold of the Northern Urals Joint Stock Co.

On July 12, *The Wall Street Journal* reported that Barrick Gold Corp., Toronto, ON, announced that it would offer \$669.5 million (C\$915.3 million) to acquire Arequipa Resources Ltd., Vancouver, BC, which reportedly owns the promising Pierina gold property in Peru.

TABLE 1
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

States	1995 p/							
	April	May	June	July	August	September	October	November
Gold:								
Arizona	213	217	225	223	259	255	231	235
California	1,680	1,750	1,870	1,640	1,630	1,480	1,520	1,940
Idaho	255	246	248	239	236	240	236	261
Montana	1,130	1,060	1,130	1,200	1,390	1,230	1,420	1,350
Nevada	18,300	18,300	18,300 r/	18,600 r/	18,100	18,700 r/	19,000 r/	20,200
Other States 2/	4,210	4,610	4,400	4,720	5,340	4,630	4,160	3,850
Total	25,800	26,200	26,200	26,700	26,900	26,500 r/	26,600 r/	27,800
	1995 p/		1996 p/					
	December	Jan. - Dec.	January r/	February r/	March r/	April r/	May	Jan. - May
Arizona	233	2,780	246	240	185	188	203	1,060
California	1,730	20,200	2,320	2,150	2,420	2,460	2,380	11,700
Idaho	277	3,000	255	266	266	266	265	1,320
Montana	894	13,600	803	654	847	989	976	4,270
Nevada	19,900	222,000 r/	15,100	15,700	17,100	16,100	17,700	81,800
Other States 2/	4,310	51,500	4,230	3,900	4,440	4,260	4,030	20,900
Total	27,300	313,000 r/	23,000	22,900	25,300	24,300	25,600	121,000
	1995 p/							
	April	May	June	July	August	September	October	November
Silver:								
Arizona	11,200	14,600	16,800	13,400	16,000	14,800	15,900	15,600
California	926	1,010	1,020	998	978	888	996	1,220
Idaho	11,900	14,900	13,600	15,200	17,000	15,000	14,900	12,400
Missouri	3,900	4,160	7,380	3,650	4,130	3,050	2,380	3,120
Montana	5,380	6,760	6,100	7,390	7,230	6,910	6,630	7,360
Nevada	58,500	47,100 r/	44,300 r/	47,300 r/	73,900	68,900 r/	56,200 r/	49,000
Other States 3/	26,900	32,100	31,300	31,100	34,400	29,900	24,000	21,200
Total	119,000	121,000 r/	120,000	119,000	154,000	139,000	121,000	110,000
	1995 p/		1996 p/					
	December	Jan. - Dec.	January	February	March	April	May	Jan. - May
Arizona	16,700	172,000	16,100 r/	17,700 r/	13,900 r/	16,900 r/	18,200	82,900
California	1,200	12,100	1,300 r/	1,280 r/	1,360 r/	5,460 r/	1,840	11,200
Idaho	12,700	161,000	12,400 r/	13,000	14,800	14,800	14,800	69,900
Missouri	3,040	45,400	3,110	3,070	3,620	3,980	3,930	17,700
Montana	6,780	75,800	5,810 r/	5,130 r/	4,660 r/	5,050 r/	5,250	25,900
Nevada	54,800	653,000 r/	42,700 r/	42,600 r/	44,000 r/	39,800 r/	49,400	218,000
Other States 3/	25,800	336,000	27,700 r/	23,000 r/	26,800 r/	25,700 r/	26,200	129,000
Total	121,000	1,460,000 r/	109,000 r/	106,000 r/	109,000 r/	112,000 r/	120,000	555,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes Alaska, Colorado, New Mexico, South Carolina, South Dakota, Utah, and Wisconsin.

3/ Includes Alaska, Colorado, Michigan, New Mexico, New York, South Carolina, South Dakota, Utah, and Wisconsin.

TABLE 2
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
Engelhard Industries:				
1995:				
Year:				
Low/date	373.68 (Jan. 09)	4.39 (Mar. 03)	404.00 (Mar. 02)	130.00
High/date	396.87 (Apr. 19)	6.02 (May 04)	462.00 (May 04)	179.00
Average	385.50	5.21	425.36	153.34
1996:				
April:				
Low/date	390.30/19	5.25/19	399.00/19	136.00
High/date	398.20/12	5.55/12	410.00/12	143.00
Average	394.27	5.42	405.33	138.05
May:				
Low/date	391.86/31	5.30/23	397.00/22	131.00
High/date	396.12/08	5.49/08	406.00/03	137.00
Average	393.29	5.37	402.09	134.00
June:				
Low/date	384.50/21	5.05/14	391.00/11	131.00
High/date	392.01/03	5.38/03	401.00/03	134.00
Average	386.58	5.14	393.45	133.00
Year to date:				
Low/date	384.50 (June 21)	5.05 (June 14)	391.00 (June 11)	128.00
High/date	416.16 (Feb. 05)	5.82 (Feb. 02)	433.00 (Feb. 05)	146.00
Average	396.44	5.43	408.55	136.61
Handy and Harman:				
1995:				
Average	384.22	5.19	XX	XX
1996:				
April	392.96	5.40	XX	XX
May	391.98	5.36	XX	XX
June	385.58	5.14	XX	XX
Year to date	395.18	5.42	XX	XX
London Final:				
1995:				
Average	384.16	5.22	XX	XX
1996:				
April	392.85	5.41	XX	XX
May	391.93	5.37	XX	XX
June	385.27	5.16	XX	XX
Year to date	395.08	5.44	XX	XX

XX Not applicable.

Source: Platt's Metals Week.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF GOLD, BY COUNTRY 1/

(Kilograms of gold content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion 3/	Total	Waste and scrap 4/ (gross weight)
Imports:					
1995:					
Year	5,020	9,820	111,000	126,000	14,400
1996:					
February	294	380	8,040	8,720	1,020
March	256	974	11,100	12,300	1,240
April:					
Canada	18	--	8,680	8,700	173
Chile	--	--	--	--	26
Colombia	--	--	1,840	1,840	--
Dominican Republic	--	--	16	16	223
Ecuador	--	--	48	--	9
Mexico	343	759	691	1,790	162
Other	--	31	1,480	1,510	522
Total	361	790	12,800	13,900	1,120
Year to date	1,370	2,730	43,400	48,200	4,380
Exports:					
1995:					
Year	345	69,700	277,000	347,000 5/	74,700 5/
1996:					
February	6	592	21,400	22,000	8,580
March	9	7,550	64,500	72,000	10,200
April:					
Canada	3	1,110	71	1,180	2,810
France	--	--	--	--	4,900
Germany	--	--	12	12	290
Japan	--	--	501	501	--
Korea, Republic of	--	--	1,530	1,530	--
Switzerland	--	596	23,600	24,200	--
United Kingdom	--	1,240	64,000	65,300	1,060
Other	--	--	835	835	486
Total	3	2,940	90,600	93,500	9,550
Year to date	21	12,700	189,000	202,000	36,600

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap" not included in "Total."

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF SILVER, BY COUNTRY 1/

(Kilograms of silver content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion	Total	Waste and scrap 3/ (gross weight)
Imports:					
1995:					
Year	225,000	395,000	2,630,000	3,250,000	2,140,000
1996:					
February	5,190	59,400	193,000	258,000	113,000
March	7,160	18,100	222,000	247,000	211,000
April:					
Australia	--	--	--	--	11,600
Canada	104	--	77,900	78,000	3,840
Chile	--	12,100	2,000	14,100	446
Colombia	--	70	--	70	--
Dominican Republic	--	1,680	17,700	19,400	249
France	--	--	--	--	7,180
Germany	--	--	--	--	56,400
Malaysia	--	--	--	--	17,000
Mexico	14,100	183	85,000	99,400	156
Netherlands	--	--	--	--	14,500
Peru	--	--	31,600	31,600	--
Philippines	--	--	--	--	7,030
United Kingdom	--	--	437	437	53,100
Other	--	225	--	225	1,630
Total	14,300	14,300	215,000	243,000	173,000
Year to date	36,900	106,000	894,000	1,040,000	623,000
Exports:					
1995:					
Year	743	72,100	2,810,000 4/	2,880,000	1,580,000
1996:					
February	--	652	34,700	35,300	118,000
March	250	18,500	81,700	100,000	179,000
April:					
Belgium	--	--	--	--	15,700
Canada	--	--	--	--	38,200
China	--	--	--	--	17,300
France	--	--	--	--	5,740
Germany	--	--	61	61	4,050
Japan	--	--	--	--	6,280
Sweden	--	--	--	--	5,890
Switzerland	--	5,740	--	5,740	--
Taiwan	--	--	--	--	398
United Kingdom	--	224	163,000	163,000	3,790
Uruguay	--	--	1,570	1,570	--
Other	--	--	12,200	12,200	1,190
Total	--	5,960	177,000	183,000	98,600
Year to date	461	26,400	392,000	418,000	483,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores, concentrates, and matte imported for refining.

3/ "Waste and scrap" not included in "Total."

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY 1/

(Kilograms of metal content, unless otherwise specified)

Country	Ores and concentrates	Waste and scrap (gross weight)	Refined				Osmium	Ruthenium
			Platinum	Palladium	Rhodium	Iridium		
Imports:								
1995:								
Year	123	6,350	71,500 2/	124,000	9,600	1,450	69	7,520
1996:								
February	--	335	5,510	7,430	489	90	--	1,580
March	--	306	6,430	11,900	740	225	311	1,190
April:								
Belgium	--	--	266	653	36	--	--	--
Canada	--	14	83	350	--	--	--	--
China	--	--	38	94	--	--	--	--
Colombia	--	4	14	--	--	--	--	--
Germany	--	3	677	120	16	16	--	77
Japan	--	--	--	492	--	--	--	--
Norway	--	--	45	272	--	--	--	--
Russia	--	--	723	4,320	82	--	--	--
South Africa	--	--	5,110	1,850	552	53	--	5,480
Switzerland	--	--	132	206	--	--	--	16
United Kingdom	--	209	990	1,130	199	107	--	163
Other	--	186	92	36	82	--	--	--
Total	--	416	8,170	9,530	967	176	--	5,740
Year to date	--	1,490	25,300	33,900	3,010	628	311	9,080
Exports:								
1995:								
Year	598	8,150	19,900	26,000	742	85 3/		
1996:								
February	16	482	1,090	1,920	1	1 3/		
March	27	257	1,200	2,490	28	22 3/		
April:								
Belgium	--	59	26	73	--	--		
Canada	--	11	69	70	--	1		
France	--	18	6	137	--	--		
Germany	39	119	61	92	--	3		
Hong Kong	--	--	--	--	--	--		
Ireland	--	--	--	6	--	--		
Japan	--	105	349	125	--	--		
Korea, Republic of	1	--	162	120	17	1		
Mexico	--	--	--	281	--	--		
Netherlands	--	--	2	222	--	--		
Singapore	--	--	--	60	--	--		
Sweden	--	10	1	40	--	--		
Switzerland	12	--	1	84	--	--		
Taiwan	--	--	3	44	--	--		
United Kingdom	--	629	81	108	--	--		
Other	1	1	26	55	--	--		
Total	53	952	787	1,520	17	5 3/		
Year to date	152	1,950	5,250	7,710	67	33 3/		

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of this amount 1,070 kilograms was in the form of platinum coins.

3/ Includes osmium and ruthenium.

Source: Bureau of the Census.